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positioning said detectors over a first row of said document,
reading the value of the output of said detectors to generate output signals,
moving said detectors over a second row of said document and also moving said detectors in
a direction "x", direction "x" being perpendicular to said direction "y",
repeating said positioning, reading and moving steps until said at least a portion of said
document has been scanned,
a computational device for combining the output signals from at least some of said detectors
to generate an image with pixels, the pixel pitch of which equal said first value.

10 12) A flatbed scanner for documents, said scanner including
a linear array of detectors which is moved over the length of said document, the length of
said linear array at least equaling the width of said document, each of said detectors
covering a first distance,
means for vibrating said linear array in a direction perpendicular to the length of said
document, said vibration being in accordance with a particular pattern of motion, means for
generating an image which has a pixel size equal to said first distance from the output of at
least some of said detectors.

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Remarks:

This amendment is responsive to the Office Action dated 09/25/2002.

The status of the claims is as follows:

Claims 1 to 14 are in this application.

Claims 4 to 6 have been allowed.

Claim 8 was indicated as allowable subject to certain minor changes. The requested changes have been made hence claims 8, should now be allowable.

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Claim 2 was rejected as based on a rejected claim. Applicants has not made changes to claim 2 pending resolution of the status of the parent claim.

Claims 1, 3 to 7 and 9 to 14 were rejected for a number of reasons. Reconsideration of claims 1, 3 to 7 and 9 to 14 is respectfully requested for the reasons explained below.

Claims 9, 11, 13 and 14 were rejected under the judicially created doctrine of obviousness double patenting. A terminal disclaimer is being filed herewith to overcome this rejection.

Claims 7, 10 and 12 were rejected as claiming the same invention as claims 3, 6 and 11 of prior patent 6,320,680. Claims 7, 10 and 12 have been amended and hence this rejection is no longer appropriate.

Claims 1 and 3 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. The examiner indicated that

"The claims are considered incomplete because the claimed invention does not include all steps or functions or features which are necessary to reduce Moiré patterns.According to the disclosure of the invention, without the application of the/a pseudo random pattern, Moiré patterns are not reduced".

Applicant notes that the specifications on page 9, applicant states:

"In the preferred embodiment of the invention shown in Figure 6, the scanning element 25 is moved in accordance with a pseudo random pattern"

In the very next paragraph which begins on page 10, applicant states:

"The above series of numbers is merely intended as an example.The particular numbers used is a matter of choice for each particular application"

In view of the clear statements in applicant's specification, applicant respectfully requests that the rejection of claims 1 and 3 under 35 U.S. C. 112 be withdrawn.

Claims 1, and 3 were also rejected under 35 U.S.C. 102(e) as being anticipated by Mizumoto (patent 6,115,147). The examiner states:

"For the purpose of this rejection, the claimed phrase 'in order to reduce Moiré pattern' is not given any patentable weightIf the phrase 'in order to reduce Moiré pattern' were given patentable weight, the claim would have to be rejected under 35

U.S.C. 112, second paragraph as being indefinite because the claim is incomplete since a scanner performing the only claimed step does not reduce Moiré patterns.

Applicant submits that the phrase 'in order to reduce Moiré pattern' defines how the scanner is vibrated. Prior to applicant's invention it was not known that a scanner could be vibrated in such a manner that Moiré patterns in the resulting image were reduced. Mizumoto does not move the scanner elements to reduce Moiré patterns. Mizumoto is concerned with quality of an image. Mizumoto is concerned with the distance between pixels in an image. He moves the sensor so that he can "produce pixel signals of the increased resolution" (col 1 line 18 of Mizumoto).

Applicant submits that all the words in the applicant's claim must be considered. If this is done it is clear that Mizumoto does not teach the invention claimed by the applicant. For the above reason applicant respectfully requests withdrawal of the rejection of claims 1 and 3 based upon Mizumoto.

In conclusion applicant respectfully requests allowance of claims 1-14 and issuance of the subject application.

Respectfully submitted,



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Amendment to Specifications and Claims Showing Changes Made

Application 09/930,603 Docket EWG-065-C1
Submitted with amendment dated 10/31/02

In the Specifications:

Top of Page 1, amend the paragraph
with the heading "Related Applications:" as follows:

This applications is a continuation of application 09/099,864 filed 6/18/04 1998 (now
patent 6,320,680).

In the Claims:

Amend claims 3, 5, 7, 8, 10 and 12 as follows:

3 amended) The scanner recited in claim 1 wherein the magnitude of said vibration is
less than half the width of a detection device in said linear array of detection
deviceselement.

5 amended) The scanner recited in claim 4 wherein said vibration is a pseudo random
pattern of ~~vibration~~ vibration.

7 amended) A scanner which includes a linear array of detector elements each of which
generates output signals, at least some of said detector elements each having a width
equal to a first value,
means for moving said array over said document in a pre-determined ~~pseudo-random~~
pattern of motion in a first direction,
means for moving said array of detectors in a direction perpendicular to said first
direction,
means for combining the output signals from at least some of said detectors to generate
a square array of pixel values which represent an image, each pixel having a size equal
to said first value,

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whereby certain the patterns become visible in said image ~~Moiré patterns in the said image are reduced.~~

8 amended) A scanner which includes a linear array of detector elements to produce scan data corresponding to an image comprising:
a device for moving said array over said document in a direction "y",
a transducer for moving said array of detectors in a direction "x", direction x being non-aligned with direction "y", and
a drive circuit for applying a control signal to said transducer to effect random movement in said direction 'x,'
whereby Moiré patterns in the said image are reduced.

10 amended) The method of scanning a document which consists of a series of rows of areas with a linear array of detectors,
the distance between the center points of said detectors equaling a first value, said rows being arranged in a direction "y", said method comprising:
positioning said detectors over a first row of said document,
reading the value of the output of said detectors to generate output signals,
moving said detectors over a second row of said document and also moving said detectors in a direction "x", direction "x" being perpendicular to said direction "y",
repeating said positioning, reading and moving steps until said at least a portion of said entire document has been scanned,
a computational device for combining the output signals from at least some of said detectors to generate an image with pixels, the pixel pitch of which equal said first value.

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12) A flatbed scanner for documents, said scanner including a linear array of detectors which is moved over the length of said document, the length of said linear array at least equaling the width of said document, each of said detectors covering a first distance, means for vibrating said linear array in a direction perpendicular to the length of said document, said vibration being in accordance with a particular ~~pseudo-random~~ pattern of motion, means for generating an image which has a pixel size equal to said first distance from the output of at least some of said detectors, ~~whereby Moiré patterns are reduced.~~

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